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Non-Performing Assets and Exchange Rate Volatility

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ABSTRACT

Non-Performing Assets are considered as the major challenge toai Indian banks like SBI which comes under public sector bank. Violations in asset quality have long-term connotations for the financial position of banks as it underpins profitability, solvency, and liquidity. In this study, the impact of NPAs on three important performance parameters such as Loan Loss Provisions (LLP), Capital Adequacy Ratio (CAR) and Loan-to-Deposit Ratio (LTDR) which are used as indicators to assess financial soundness and robustness of a bank has been analysed. PERSISTENCE OF RISING NPAsTo counterbalance rise in LLP banks begin to experience declining operational profits and a weakening of internal capital generation.

The research sheds light on the specific ways in which NPAs undermine various dimensions of banking performance using secondary data from annual reports and RBI bulletins published by SBI over two decades, supplemented with previous academic studies. Despite the improvement in asset quality over time on account of reforms, restructuring and technological monitoring being undertaken by SBI NPA levels remain elevated & act as a drag on efficiency and growth . However, the need for more comprehensive credit appraisal process and stringent recovery thereby is expected to continue as well in order make NPA management effective strengthening their profitability as investors look upon stable banking system.

KEYWORDS

Non-Performing Assets (NPAs), Loan Loss Provisions (LLP), Capital Adequacy Ratio (CAR), Loan-to-Deposit Ratio (LTDR), SBI, Profitability, Banking Sector.

INTRODUCTION

The Indian banking sector is crucial to the country's financial system. It mobilizes savings and directs them into productive investments, promoting economic development. One major challenge banks face is the rising number of Non-Performing Assets (NPAs). NPAs indicate borrowers' failure to repay their loans and show inefficiencies in credit appraisal, monitoring, and recovery. Their continuous increase directly affects the profitability, stability, and trustworthiness of the banking system.

State Bank of India (SBI) is the largest commercial bank in the country and a key player in carrying out government financial policies. It reflects the general trends in asset quality across the industry. As an important institution, changes in SBI's financial health can significantly influence the broader economy. When NPAs rise, they reduce the interest income, which is a major part of bank revenues. This leads to higher provisioning, which cuts into profitability and weakens capital adequacy ratios (CAR), limiting the bank's ability to increase lending. Consequently, this affects liquidity management and restricts credit flow to vital sectors of the economy.

It is essential to understand how NPAs impact key indicators like Loan Loss Provisions (LLP), Capital Adequacy Ratio (CAR), and Loan-to-Deposit Ratio (LTDR). These measures not only show the short-term effects of stressed assets on SBI's financial performance but also offer insights into its long-term strength and ability to withstand shocks. Examining these connections helps policymakers, regulators, and stakeholders assess the health of India's largest lender and determine the resilience of the banking sector in supporting economic growth amid increasing credit risks.

STATEMENT OF THE PROBLEM

Despite reforms like the Insolvency and Bankruptcy Code (IBC) and recapitalization programs, SBI continues to face NPA-related challenges. Rising NPAs force the bank to allocate higher LLP, depleting earnings; weaken CAR by inflating risk-weighted assets; and distort LTDR by straining the deposit-loan balance. The problem lies in understanding how these interlinked indicators reflect the bank's ability to absorb shocks and sustain growth.

OBJECTIVES

1. To examine the trend of NPAs in SBI and its effect on LLP.
2. To analyze the impact of NPAs on CAR as a measure of financial stability.
3. To evaluate how NPAs influence LTDR as a liquidity indicator.
4. To provide suggestions for strengthening SBI's resilience against NPA shocks.

NEED OF THE STUDY

The study of Non-Performing Assets (NPAs) and their impact on financial indicators in the Indian banking sector is crucial. High NPAs reduce the profitability of banks by cutting interest income and requiring higher provisions, which directly affects profits. Over time, this weakens the balance sheet, undermines capital adequacy, and limits the bank's ability to offer new credit. Since credit drives investment and consumption in the economy, the rise of NPAs affects more than just banks; it has broader macroeconomic effects.

This study is important for policymakers and regulators who create frameworks to ensure financial stability. It also matters for investors and stakeholders who depend on solid financial indicators to make smart choices. Additionally, the analysis can help identify the root causes of NPAs and suggest fixes. These could range from better credit assessment systems to improved recovery methods. Ultimately, this study aims to strengthen banking stability, restore investor confidence, and support sustainable economic growth.

RESEARCH METHODOLOGY

- Nature of study: Analytical and descriptive.
- Data source: Secondary data from SBI annual reports (2016–2025), RBI bulletins, and published literature.
- Tools used: Ratio analysis (LLP, CAR, LTDR), trend analysis, and correlation.
- Period: Ten years (2016–2025).

ANALYSIS AND INTERPRETATION

Table 1: Percentage Analysis of Key Financial Indicators

Indicator	**Mean Value**	**Std. Deviation**	**% Coefficient of Variation (CV)**	**Interpretation**
GNPA	5.59	2.98	53%	High variability in Gross NPAs, showing instability in asset quality.
NNPA	2.27	1.76	77%	Very high volatility, sharper fluctuations in Net NPAs.
LLP	1.62	1.15	71%	Provisioning strongly fluctuates with changes in NPAs.
ROA	0.56	0.47	84%	Profitability highly inconsistent over time.
ROI	29.47	2.47	8.4%	Investment returns are stable and efficient.
CAR	5.59	0.38	6.8%	Strong stability in capital adequacy, less risk.
LTDR	73.87	5.23	7.1%	Stable lending–deposit balance, no major liquidity risk.
EXR	74.29	7.31	9.8%	MODERATE FLUCTUATIONS IN EXCHANGE

				RATE EXPOSURE.

Table 2: Descriptive Statistics of SBI Indicators

Variable	N	Range	Mean	Std. Deviation	Skewness	Kurtosis
LLP	10	3.75	1.62	1.16	0.498	0.054
ROA	10	1.31	0.56	0.47	-0.076	-1.311
LTDR	10	18.03	73.87	5.23	0.595	0.892
ROI	10	6.66	29.47	2.47	0.019	-1.870
CAR	10	1.10	5.59	0.38	0.402	-1.017
GNPA	10	9.70	5.59	2.98	0.604	0.267
NNPA	10	5.26	2.27	1.76	0.794	-0.191
EXR	10	21.13	74.29	7.31	0.415	-1.151
ROD	10	0.26	0.42	0.09	-0.192	-1.005
NIM	10	0.09	0.28	0.04	-0.188	-2.037

Table 3: Chi-Square (Goodness-of-Fit for NPAs)

Hypothesis	Chi-Square Value	df	Sig. Level	Result
NPAs distribution fits expected stability	18.25	9	0.033	Significant – NPA values deviate from expected stability, confirming volatility.

Table 4: One-Sample T-Test Results

Variable	Mean	t-value	Sig. (p-value)	Interpretation
ROA	0.56	3.744	0.005	Profitability from assets is significant.
ROI	29.47	37.707	0.000	Very strong and stable investment returns.
ROD	0.42	10.531	0.000	Deposits are efficiently converted to returns.
NIM	0.28	23.167	0.000	Strong efficiency in interest income.

NNPA	2.27	4.087	0.003	Net NPAs significantly affect financial strength.

Table 5: ANOVA (Regression Analysis with NNPA as Dependent Variable)

Model Summary	**R**	**R^2**	**Adj. R^2**	**F**	**Sig.**
Regression Model	0.983	0.967	0.925	23.266	0.005

Predictor	**B (Coefficient)**	**Std. Error**	**t-value**	**Sig.**	**Interpretation**
(Constant)	-9.215	7.027	-1.311	0.260	Not significant
LLP	1.296	0.465	2.787	0.049	Significant → LLP strongly predicts NPAs
CAR	0.688	0.909	0.757	0.491	Not significant
LTDR	0.059	0.071	0.840	0.448	Not significant
ROI	0.045	0.119	0.377	0.725	Not significant
ROA	-0.320	1.132	-0.283	0.791	Not significant

Overall Interpretation:

- Percentage & Descriptive Analysis → NPAs are highly volatile compared to stable ratios like CAR and ROI.
- Chi-Square → Confirms that NPAs deviate significantly from stable patterns.
- T-Test → SBI maintains significant profitability despite NPA pressures.
- ANOVA/Regression → LLP is the main variable explaining NPAs, while CAR, LTDR, ROI, and ROA have long-term supportive roles but are not immediate predictors.

LIMITATIONS OF THE STUDY

1. Restricted to SBI; results may not generalize to private sector banks.
2. Relies on secondary data, limiting real-time insights.
3. External macroeconomic shocks (exchange rate, inflation) may distort ratios beyond NPA effects.

REVIEW OF LITERATURE

- Ranjan & Dhal (2003) emphasized that weak credit appraisal and directed lending policies increased NPAs in Indian banks.
- Chaudhary & Singh (2012) found public sector banks carried higher NPAs due to policy-driven lending.
- Das & Utpal (2021) showed NPAs negatively correlate with profitability indicators like ROA and ROE.
- Desai & Trivedi (2022) highlighted SBI's declining NIM and ROE during high NPA years.
  These studies collectively show that NPAs depress profitability and erode capital adequacy, underscoring the need to analyze LLP, CAR, and LTDR in detail.

SUGGESTIONS

1. Strengthen credit appraisal systems with AI-based risk assessment.
2. Enhance recovery through IBC, SARFAESI, and Asset Reconstruction Companies.
3. Build higher provision coverage ratios proactively to absorb shocks.
4. Maintain an optimal LTDR by balancing aggressive lending with liquidity safeguards.
5. Increase capital buffers to sustain CAR well above regulatory minimums.

CONCLUSION

The study concludes that Non-Performing Assets (NPAs) exert a significant and multi-dimensional impact on the financial strength of the State Bank of India (SBI). Rising NPAs lead to higher Loan Loss Provisions (LLP), which directly reduce profitability by diverting income toward covering potential defaults. Simultaneously, the erosion of the Capital Adequacy Ratio (CAR) weakens the bank's capital buffer, making it more vulnerable to shocks and constraining its capacity to expand lending operations. The Loan-to-Deposit Ratio (LTDR) is also adversely affected, as liquidity pressures limit the efficient deployment of deposits into credit, thereby restricting financial intermediation. Together, these effects highlight that persistent asset quality issues translate into tighter credit availability, reduced profitability, and weakened financial resilience.

While the study confirms the severity of NPAs, it also acknowledges positive developments. Regulatory reforms by the Reserve Bank of India (RBI), such as stricter prudential norms, asset quality reviews, and resolution frameworks under the Insolvency and Bankruptcy Code (IBC), have strengthened monitoring and enforcement mechanisms. SBI's adoption of digital tools for loan tracking, early warning systems, and improved credit appraisal processes has helped reduce slippages and improve recovery efficiency in recent years. These measures have brought some stability to asset quality and reflect the bank's adaptability in a dynamic risk environment.

However, the findings emphasize that reforms alone are not sufficient. For long-term sustainability, SBI must maintain continuous vigilance, adopt robust credit risk assessment practices, and diversify its lending portfolio to minimize sector-specific risks. Strengthening recovery mechanisms, including faster resolution of stressed assets and collaboration with insolvency professionals, is equally critical. At the same time, balancing profitability with prudential provisioning remains a delicate challenge.In essence, NPAs continue to be a structural constraint on SBI's financial performance, but with consistent reforms, proactive governance, and resilient risk management, the bank can safeguard its stability and reinforce the overall health of the Indian banking sector. Ensuring asset quality is therefore not only crucial for SBI's growth but also for maintaining investor confidence and supporting India's broader economic development.

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2. Legal Aspects of Recovery & Reduction of NPA in Banking Industries by Parineeta Goswami — explains the legal framework such as SARFAESI Act, DRT, and Lok Adalats, useful in understanding recovery mechanisms and their influence on profitability.
3. Credit Risk Management for Indian Banks by K. Vaidyanathan — focuses on how credit risk management, asset classification, and provisioning norms affect profitability and stability in banks like SBI.
4. Highlights of Non-Performing Assets and Banking System in India by Dr. S. K. Nath — offers a comprehensive overview of trends, causes, and consequences of NPAs in Indian banks with a focus on public sector banks.